Finding: CPExpert believes that the Persistent Verification Delay (PVDELAY) value specified in the System Initialization Table (SIT) may be too low.

Impact: This finding should normally have a LOW IMPACT on the performance of the CICS region.

Logic flow: This is a basic finding, based upon an analysis of the CICS statistics.

Discussion: With CICS/ESA Version 3.2.1, "persistent verification" is the term used to describe signing on to a remote system and having that sign on remain valid (or "persist") over multiple conversations until it is no longer needed.

By reducing the number of times a password is sent to the remote system, integrity is improved as the exposure of passwords is minimized. Performance is improved because CICS needs to call the external security manager (e.g., RACF) for password checking only during signon.

To sign onto CICS from a remote system, a valid userid and password must be provided in the attach to the remote system. The signon request is processed and, assuming that the userid and password are valid, CICS adds the userid to a table called the persistent verification "signed on from" list. The userid entry remains on the list until one of the following occurs:

- The user signs off.
- The entry is timed out (this timeout is controlled by the PVDELAY parameter).
- The connection between systems is lost.
- CICS is restarted.
- CICS receives an invalid attach from the userid.

As indicated above, the PVDELAY parameter in the SIT specifies how long userids are allowed to remain unused in the persistent verification "signed on from" list of a remote system.

The default value for the PVDELAY parameter is 30, indicating that an entry will be deleted if there is no activity for 30 minutes. If a value of zero is specified, userid entries are deleted immediately after use. Once an

entry is deleted, the user must sign on again to perform further activity. When the remote user signs on again, the external security manager (e.g., RACF) must be invoked.

Selecting an appropriate value for the PVDELAY parameter is a tradeoff between:

- Management desire for security.
- The overhead required for the external security manager and the potential inconvenience or annoyance to the user.

Beginning with CICS/ESA Version 3.2.1, the CICS ISC/IRC Attach Time statistics provide the current value of the PVDELAY parameter (A21LUITM) and provide the average time that has elapsed between each reuse of entries in the "signed on from" list (A21LUIAV). IBM suggests that the value for the PVDELAY parameter should be increased if the number of "entries reused" (A21LUIRE) is low and the number of "entries timed out" (A21LUITI) is high.

CPExpert first compares the average time that has elapsed between each reuse of entries in the "signed on from" list (A21LUIAV) with the current value of the PVDELAY parameter (A21LUITM). CPExpert concludes that there is no continuing problem if the average reuse time is less than the PVDELAY value.

If A21LUIAV is greater than A21LUITM, then there may be a problem. The question is how serious is the problem (is it worth addressing), and does management really want the security processing to be performed after timeout. Since this is a function of installation management objectives, CPExpert provides a guidance variable in USOURCE(CICGUIDE) which is used to assess whether a problem exists. The guidance variable (**PVCOUNT**) specifies the number of persistent verification timeouts which are considered a problem.

CPExpert produces Rule CIC255 if A21LUIAV is greater than A21LUITM, **and** the number of entries timed out (A21LUITI) is greater than the PVCOUNT guidance variable.

Suggestion: CPExpert suggests that you consider increasing the PVDELAY to the value provided by Rule CIC255. The value provided by Rule CIC255 is simply the average time that has elapsed between each reuse of entries in the "signed on from" list (A21LUIAV).

Alternatively, if you feel that Rule CIC255 is firing spuriously, please change the PVCOUNT guidance variable in USOURCE(CICGUIDE).

Reference: *CICS/ESA Version 3.2.1 Performance Guide*: pages 302-303.

CICS/ESA Version 3.3.1 Performance Guide: page 61 and pages 321-322.

CICS/ESA Version 4.1.1 Performance Guide: Section 2.2.24 and Appendix A.1.16.

CICS/TS Release 1.1 Performance Guide: Section 2.2.24 and Appendix 1.1.13.

CICS/TS Release 1.2 Performance Guide: Section 2.2.25 and Appendix 1.1.14.

CICS/TS Release 1.3 Performance Guide: Section 2.2.26 and Appendix 1.1.15

CICS/TS for z/OS Release 2.1 *Performance Guide*: Chapter 5 (ISC/IRC attach time entries) and Appendix A (Table 66).

CICS/TS for z/OS Release 2.1 *Performance Guide*: Section 2.2.27 (Interpreting ISC/IRC system and mode entry statistics) and Appendix 1.1.12.

